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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,847	01/29/2004	Giovanna Malagnino	000500-370	2360

55694 7590 06/09/2006

DRINKER BIDDLE & REATH (DC)  
1500 K STREET, N.W.  
SUITE 1100  
WASHINGTON, DC 20005-1209

EXAMINER
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ABDELWAHED, ALI F

ART UNIT	PAPER NUMBER
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3722

DATE MAILED: 06/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/765,847

Applicant(s)

MALAGNINO ET AL.

Examiner

Ali Abdelwahed

Art Unit

3722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 4, 6, 21, 23 and 28-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4, 6, 21, 23 and 28-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,487,626 to Von Holst et al. in view of Tool and Manufacturing Engineers Handbook (TMEH).

Von Holst et al. discloses a threading tap (2) comprising an elongated body defining an axis of rotation (7) and including axial front (11) and rear end (1) regions, the front end region including a threading portion (8) having teeth (9) defining a helical thread-cutting structure (see fig.1), at least one helical flute (6) formed in an outer periphery of the body and interrupting the thread-cutting structure (see fig.1), and the tap being steam tempered (see column 1, lines 20-24). However, Von Holst et al. fails to teach the tap having a helix angle of the flute relative to the axis being 48°.

Nevertheless TMEH teaches a tap comprising a helix angle of the flute relative to the axis being 48° (see pg.12-84, column 1, lines 4-9). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the tap of Von Holst et al., in view of TMEH, such that it would provide the tap of Von Holst et al. with a helix angle of the flute relative to the axis being 48° for the purpose of improving the chip removal from the hole during operation.

Claims 6 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 1,395,198 to McFarlane et al. in view of Von Holst et al.

McFarlane et al. discloses a tap (1) comprising an elongated body defining an axis of rotation and including axial front and rear end regions (see fig.1), the front end region including a threading portion having teeth (4) defining a helical thread-cutting structure (see fig.1), at least one helical flute (3) formed in an outer periphery of the body and interrupting the thread-cutting structure (see fig.1), and the thread cutting structure is chamfered at a rear portion thereof (see fig.1). However, McFarlane et al. fails to teach the tap being steam tempered and the chamfered rear portion forming an angle in the range of  $8^{\circ}$ - $11^{\circ}$  relative to the axis. Nevertheless, Von Holst et al. teaches a tap (2) that is steam tempered (see column 1, lines 20-24). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the tap of McFarlane et al., in view of Von Holst et al., such that it would provide the tap of McFarlane et al. with steam tempering for the purpose of enhancing the wear resistance and hardness of the tap. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the tap of McFarlane et al. with the chamfered rear portion forming an angle in the range of  $8^{\circ}$ - $11^{\circ}$  relative to the axis for the purpose of reducing friction with the workpiece, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Claims 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,487,626 to Von Holst et al. in view of U.S. Patent No. 6,235,128 B1 to Chang et al.

Von Holst et al. discloses a threading tap (2) comprising an elongated body defining an axis of rotation (7) and including axial front (11) and rear end (1) regions, the front end region including a threading portion (8) having teeth (9) defining a helical thread-cutting structure (see fig.1), at least one helical flute (6) formed in an outer periphery of the body and interrupting the thread-cutting structure (see fig.1), and the tap being steam tempered (see column 1, lines 20-24). However, Von Holst et al. fails to teach the tap being steam tempered at a temperature between 500°C and 540°C, and the steam tempering being performed with nitrogen and carbon dioxide or water. Nevertheless Chang et al. teaches a process for treating steel comprising steam tempering at a temperature between 500°C and 540°C (see column 2, lines 61-67), and the steam tempering being performed with nitrogen and carbon dioxide or water (see column 2, lines 27-33). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the tap of Von Holst et al., in view of Chang et al., such that it would provide the tap of Von Holst et al. with a steam tempering treatment having the characteristics recited above for the purpose of enhancing the wear resistance and hardness of the tap.

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***Response to Arguments***

Applicant's arguments with respect to claims 4, 6, 21, 23, and 28-30 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ali Abdelwahed whose telephone number is (571) 272-4417. The examiner can normally be reached Monday through Friday from 10:00 A.M. to 6:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Monica S. Carter can be reached on (571) 272-4475.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the examiner or the examiner's supervisor.

AA

06/05/2006

  
MONICA CARTER  
SUPERVISORY PATENT EXAMINER